

Concrete Technology and Design MCQ Question Answer

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Question: 1. Addition of pozzolana to cement causes

- Option A. Reduction in permeability
- Option B. Loss of heat of hydration
- Option C. Reduction in bleeding
- Option D. All the above

Question: 2. The high strength of rapid hardening cement at early stage, is due to its

- Option A. Finer grinding
- Option B. Burning at high temperature
- Option C. Increased lime cement
- Option D. Higher content of tricalcium

Question: 3. In a spherical dome subjected to concentrated load at crown or uniformly distributed load, the meridional force is always

- Option A. Zero
- Option B. Tensile
- Option C. Compressive
- Option D. Tensile or compressive

Question: 4. Sands of zone I are:

- Option A. Course
- Option B. Medium
- Option C. Medium to fine
- Option D. Fine

Question: 5. The final operation of finishing floors, is known as

- Option A. Screeding
- Option B. Floating
- Option C. Trowelling
- Option D. Finishing

Question: 6. The process of mixing, transporting, placing and compacting concrete using Ordinary Port land Cement should not take more than

- Option A. 30 minutes
- Option B. 40 minutes
- Option C. 60 minutes
- Option D. 90 minutes

Question: 7. Vicat's apparatus is used for

- Option A. Fineness test
- Option B. Consistency test
- Option C. Setting time test
- Option D. Soundness test

Question: 8. Addition of pozzolana to cement

- Option A. Decreases workability
- Option B. Increases strength
- Option C. Increases heat of hydration
- Option D. None of these

Question: 9. The relation between modulus of rupture f_{cr} , splitting strength f_{cs} and direct tensile strength f_{cl} is given by

- Option A. $f_{cr} - f_{cs} = f_{cl}$
- Option B. $f_{cr} > f_{cs} > f_{cl}$
- Option C. $f_{cr} < f_{cs} < f_{cl}$
- Option D. $f_{cs} > f_{cr} > f_{cl}$

Question: 10. The increased cohesiveness of concrete, makes it

- Option A. Less liable to segregation
- Option B. More liable to segregation
- Option C. More liable to bleeding
- Option D. More liable for surface scaling in frosty weather

Question: 11. For concreting of heavily reinforced sections without vibration, the workability of concrete expressed as compacting factor should be

- Option A. 0.75 - 0.80
- Option B. 0.80 - 0.85
- Option C. 0.85 - 0.92
- Option D. Above 0.92

Question: 12. A beam curved in plan is designed for

- Option A. Bending moment and shear
- Option B. Bending moment and torsion
- Option C. Shear and torsion
- Option D. Bending moment, shear and torsion

Question: 13. For the design of retaining walls, the minimum factor of safety against overturning is taken as

- Option A. 1.5

- Option B. 2.0
- Option C. 2.5
- Option D. 3.0

Question: 14. In a ring beam subjected to uniformly distributed load (i) Shear force at mid span is zero (ii) Shear force at mid span is maximum (iii) Torsion at mid span is zero (iv) Torsion at mid span is maximum The correct answer is

- Option A. (i) and (iii)
- Option B. (i) and (iv)
- Option C. (ii) and (iii)
- Option D. (ii) and (iv)

Question: 15. Curing a concrete for long period ensures better

- Option A. Volume stability
- Option B. Strength
- Option C. Water resistance
- Option D. All the above

Question: 16. Gypsum is added for

- Option A. Colour
- Option B. Strength
- Option C. Controlling setting time
- Option D. None of these

Question: 17. The percentage of voids in cement is approximately

- Option A. 25 %
- Option B. 40 %
- Option C. 60 %
- Option D. 80 %

Question: 18. To obtain a very high strength concrete, use very fine grained

- Option A. Granite
- Option B. Magnetite
- Option C. Barite
- Option D. Volcanic scoria

Question: 19. Proper proportioning of concrete, ensures

- Option A. Desired strength and workability
- Option B. Desired durability
- Option C. Water tightness of the structure
- Option D. All the above

Question: 20. Pick up the correct statement from the following:

- Option A. The quality of water governs the strength of concrete
- Option B. 10% excess of water reduces the strength of concrete by 15%
- Option C. 30% excess of water reduces the strength of concrete by 50%
- Option D. All the above

Question: 21. Pick up the correct statement from the following:

- Option A. Higher workability indicates unexpected increase in the moisture content
- Option B. Higher workability indicates deficiency of sand
- Option C. If the concrete mix is dry, the slump is zero
- Option D. All the above

Question: 22. While compacting the concrete by a mechanical vibrator, the slump should not exceed

- Option A. 2.5 cm
- Option B. 5.0 cm
- Option C. 7.5 cm
- Option D. 10 cm

Question: 23. In a counterfort retaining wall, the main reinforcement in the stem at mid span is provided on

- Option A. Front face only
- Option B. Inner face only
- Option C. Both front face and inner face
- Option D. None of the above

Question: 24. If the depth of actual neutral axis in a beam is more than the depth of critical neutral axis, then the beam is called

- Option A. Balanced beam
- Option B. Under-reinforced beam
- Option C. Over-reinforced beam
- Option D. None of the above

Question: 25. The depth of footing for an isolated column is governed by (i) Maximum bending moment (ii) Shear force (iii) Punching shear The correct answer is

- Option A. Only (i)
- Option B. (i) and (ii)
- Option C. (i) and (iii)
- Option D. All (i), (ii) and (iii)

Question: 26. The individual variation between test strength of sample should not be more than

- Option A. $\pm 5\%$ of average
- Option B. $\pm 10\%$ of average
- Option C. $\pm 15\%$ of average
- Option D. $\pm 20\%$ of average

Question: 27. In order to obtain the best workability of concrete, the preferred shape of aggregate is

- Option A. Rounded
- Option B. Elongated
- Option C. Angular
- Option D. All of the above

Question: 28. Pick up the correct statement from the following:

- Option A. Water cement paste hardens due to hydration
- Option B. During hardening cement binds the aggregates together
- Option C. Cement provides strength, durability and water tightness to the concrete
- Option D. All the above

Question: 29. Workability of concrete is directly proportional to

- Option A. Aggregate cement ratio
- Option B. Time of transit
- Option C. Grading of the aggregate
- Option D. All of above

Question: 30. If the size of panel in a flat slab is 6 m × 6 m, then as per Indian Standard Code, the widths of column strip and middle strip are

- Option A. 3.0 m and 1.5 m
- Option B. 1.5 m and 3.0 m
- Option C. 3.0 m and 3.0 m
- Option D. 1.5 m and 1.5 m

Answer Sheet

1	D	
2	C	
3	C	
4	A	
5	C	
6	A	
7	B	
8	D	
9	B	
10	A	
11	D	
12	D	
13	B	
14	A	
15	D	
16	C	
17	B	
18	A	
19	D	
20	D	
21	D	
22	B	
23	A	
24	C	
25	D	
26	C	
27	A	
28	D	
29	C	
30	C	